



Glenn Research Center



# Fuel/Oxidizer Management Assembly

- Fuel/Oxidizer System Specifications:
  - Capable of mixing 3 gases
  - Utilizes ISS nitrogen
  - Gases supplied by using up to three 3.8, 2.25, and/or 1.0 L bottles
  - Bottle pressure up to 14 MPa (~2000 PSI)
  - Static blending
    - Partial pressures
    - $\pm 0.35\%$  accuracy
    - Accommodates pre-mixed bottles
  - Dynamic
    - Mass flow controllers
    - Accuracy:  $<25\% \text{ O}_2: \pm 0.25\%$  absolute  
 $>25\% \text{ O}_2: \pm 2.0\%$  of reading
    - Flow rate  $\pm 1.0\%$  stability
    - Oxidizer: Up to 30 SLPM
    - Fuel: Up to 2 SLPM
  - High pressure supply directly from gas bottle
  - Chemical bed and particle mesh filters
    - Designed to clean: Methane, Propane, n-Heptane, CO, CO<sub>2</sub>, Sulfur Dioxide, Nitrous Oxide, H<sub>2</sub>O + others
  - Gas chromatograph
    - Accuracy: 2.0% of reading

